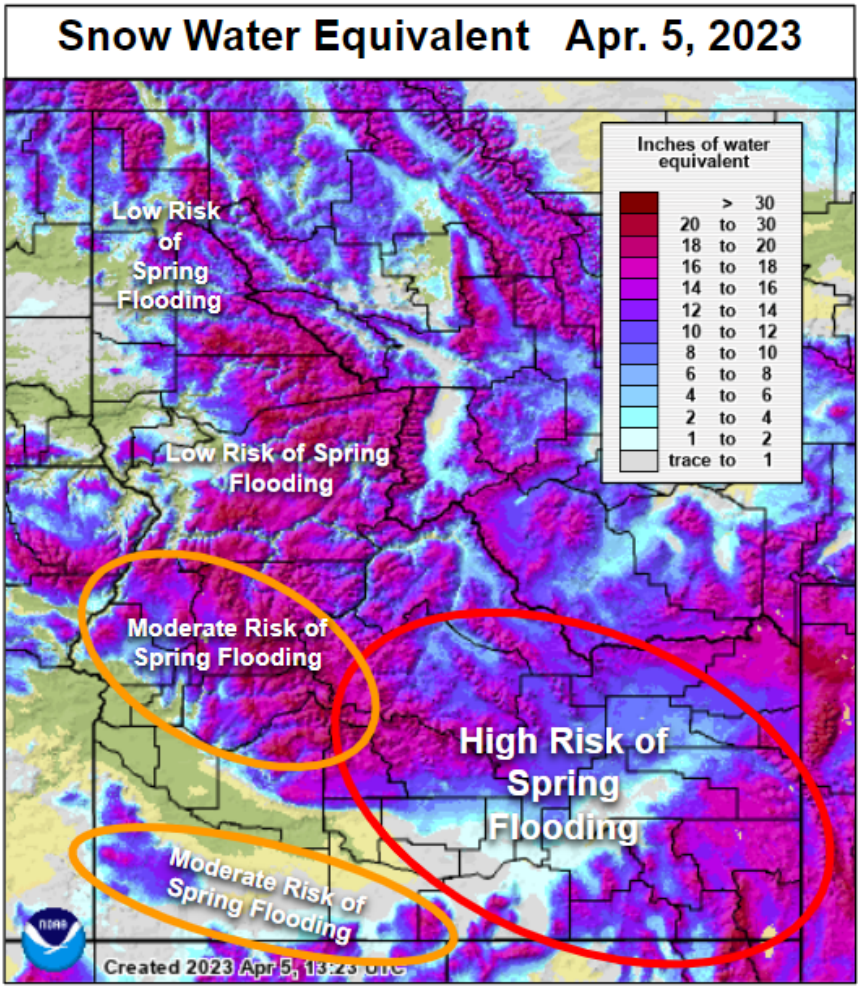
Idaho Spring Flood and Water Resources Outlook

Spring Flood Potential

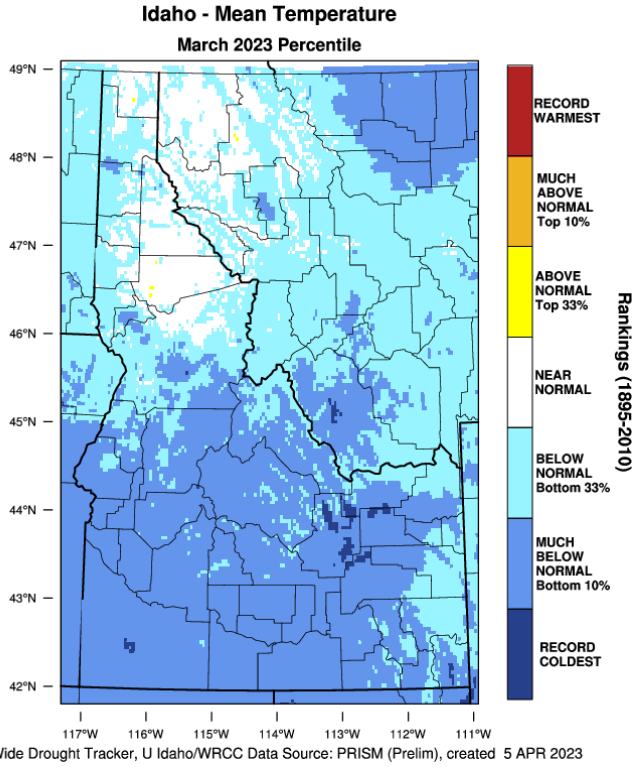


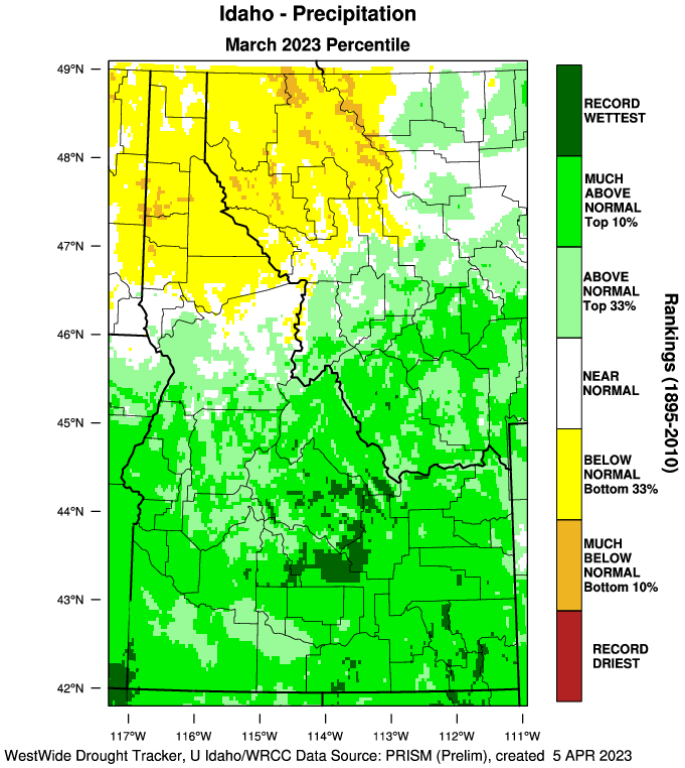
The risk for spring flooding due to snowmelt is high across the majority of eastern Idaho. There is a moderate risk of spring flooding across the west-central mountains and areas south of the Snake River Plain in south-central and southwest Idaho. Mainstem rivers below major reservoir systems in southern Idaho are generally at a low to moderate risk. The risk for spring snowmelt flooding is generally low from the mainstem of the Salmon River in central Idaho north across the Panhandle.

After a very cold and wet early spring the risk for spring flooding has changed substantially across southern Idaho from one month ago. Southern Idaho snowpack is at or near record levels at many locations for this time of year. Cold weather has delayed the onset of the low and mid elevation snowmelt. This increases the potential for rapid snowmelt and excessive runoff later this spring season. Not only is there increased risk for river and small stream flooding, lower valleys, particularly in eastern Idaho, are holding much more snow than normal for this time of year with potential for extensive sheet flooding across low-lying areas. The primary factors in the development of spring flooding are the occurrence of persistent above normal temperatures, and rain on snow precipitation events. Even if mainstem rivers do not reach flood stage, smaller creeks and streams can still overflow their banks. Under the right scenario, spring flooding is possible even for areas that have low snowpack. Additionally, wildfire burn scars can have a significant impact on local flood potential during spring snowmelt.

Temperature and Precipitation

Early spring weather was wet and cold for the southern half of Idaho. Temperatures in March were in the bottom 10th percentile for almost all of southern Idaho and some locations experienced record cold. March precipitation was in the top 10 percentile for most of southern Idaho with record wetness across portions of the Wood River and Lost River Basins. Meanwhile, temperatures across northern Idaho were near or slightly below normal in March while precipitation was below normal.

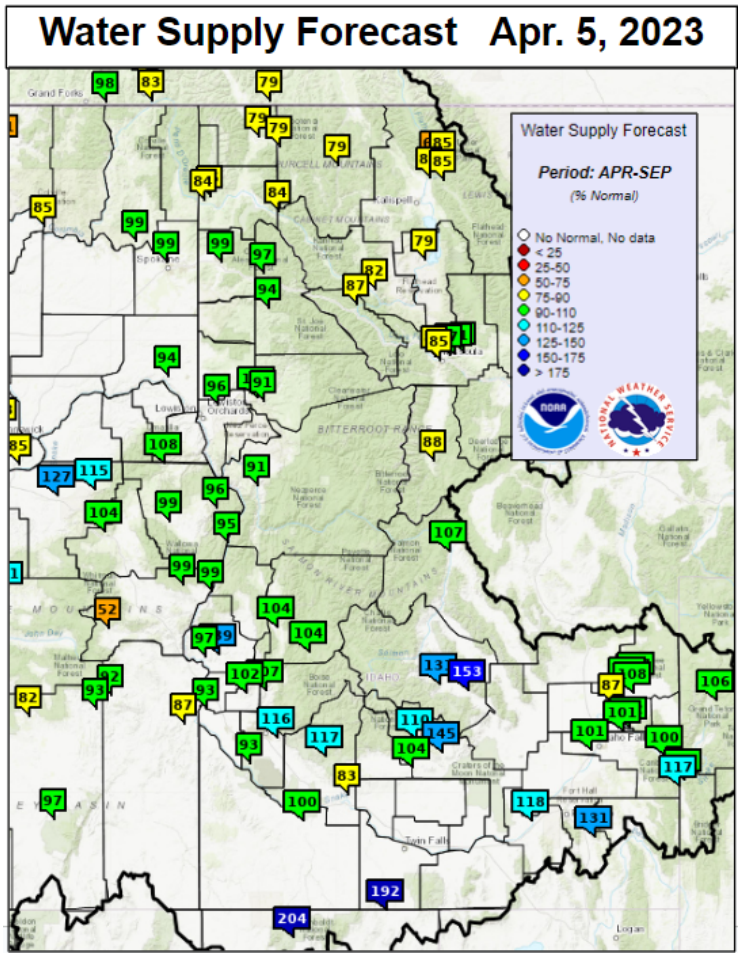




Water Supply

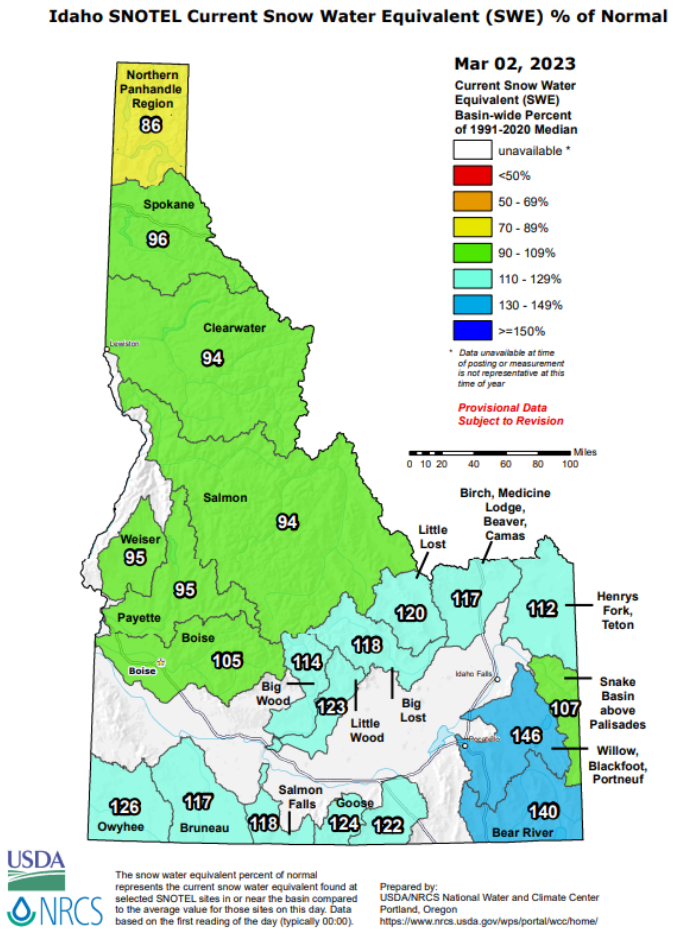
National Weather Service water supply forecasts for April through September 2023 call for near normal to well above normal runoff volumes for the southern third of Idaho. Meanwhile, forecasts for central and northern Idaho indicate near normal or below normal runoff volumes.

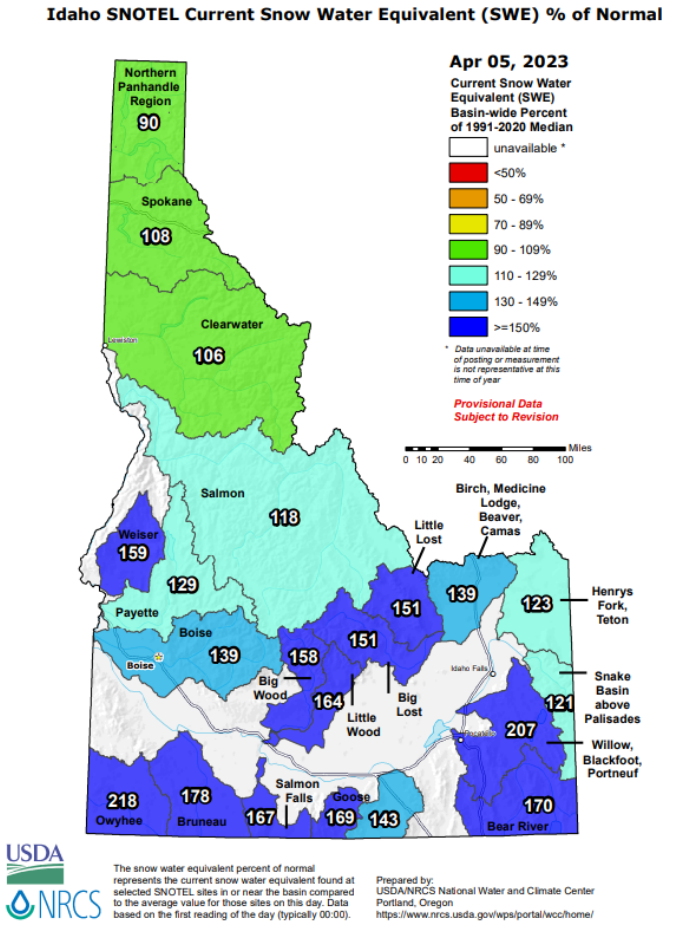
The largest volume forecasts with respect to percentage of normal are in the Big Lost, Little Wood, Portneuf, and Weiser River Basins, ranging from 130 to 150 percent of normal. For the rest of southern Idaho, including the Snake River Headwaters in western Wyoming, forecast percentages generally range from 90 to 120 percent of normal. Across northern Idaho forecast percentages are 80 to 100 percent of normal.



Snowpack

Cold and wet weather persisted through March and into early April across southern Idaho resulting in huge gains in snowpack. Early April snowpack increased by 30 to 60 percentage points in the majority of southern Idaho basins. NRCS April 1 snow course measurements at many locations indicated record high snowpack at low and mid-elevations, especially in the Wood, Lost, Southern Snake, Willow-Blackfoot-Portneuf, and Bear River basins. Even though snowpack normally peaks earlier in basins along the Utah and Nevada border, low and mid-elevation snow is anomalously high in these areas and the high percentages are not a timing comparison. Well below normal early spring temperatures have kept the snowpack colder than normal and is delaying the onset of low and mid elevation snowmelt. As spring temperatures warm the snowpack will ripen and eventually reach a state where snowmelt driven runoff substantially increases.



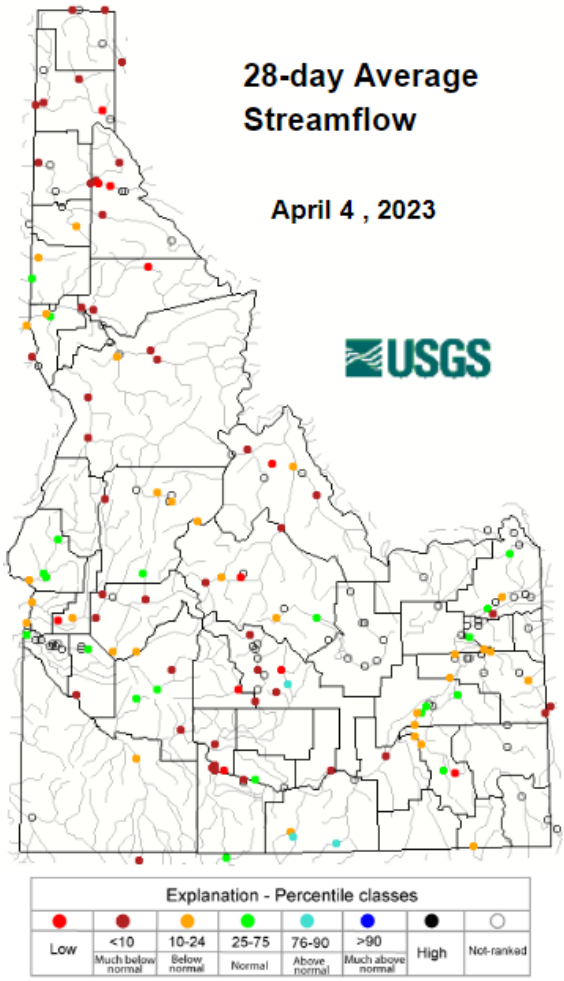


Reservoirs

As of April 4, Bureau of Reclamation reservoir storage in the Upper Snake Basin was at 55 percent of capacity and 76 percent of average. Owyhee Reservoir was at 34 percent of capacity and 47 percent of average. The Boise Reservoir System was at 64 percent of capacity and 112 percent of average. The Payette System was at 61 percent of capacity and 96 percent of average. Weather patterns, irrigation demand, and flood control needs will drive reservoir operations over the next several months. Wet spring weather or extended periods of above normal temperatures resulting in rapid snowmelt and large reservoir inflows could result in significant fluctuations in reservoir discharge and downstream river levels.

Observed Streamflow

Observed runoff so far this water year has been below average statewide. It's been particularly low across the Idaho Panhandle where locations on the Clearwater, Coeur d'Alene, Priest, and St. Joe Rivers have observed only 40 to 50 percent of normal runoff. Cold early spring temperatures resulting in delayed snowmelt have kept runoff below normal across most of the state through March and early April. Additionally, dry soils from long term drought have contributed to reduced runoff across portions of the state.



Drought

Cold and wet spring weather have resulted in a reduction of drought severity and aerial coverage across central and southern Idaho. Temperature and precipitation patterns through this spring will determine whether or not drought conditions continue to improve overall for the state.

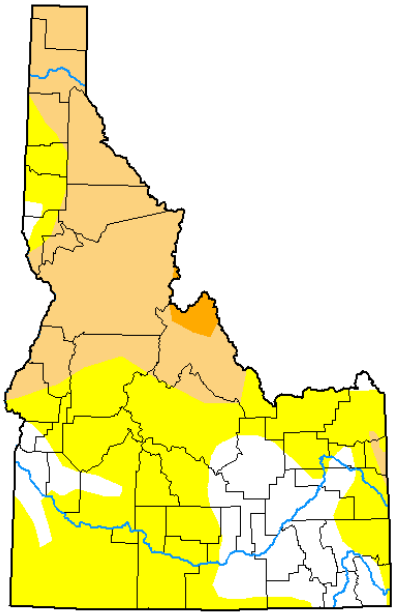
U.S. Drought Monitor

Idaho

April 4, 2023

(Released Thursday, Apr. 6, 2023)

Valid 8 a.m. EDT



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

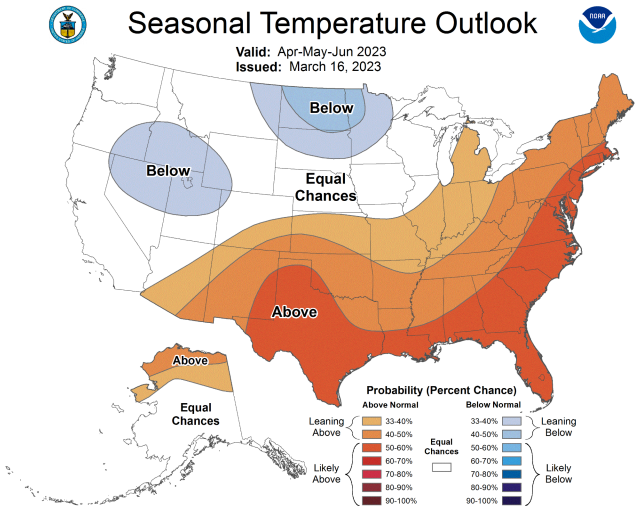
Author:

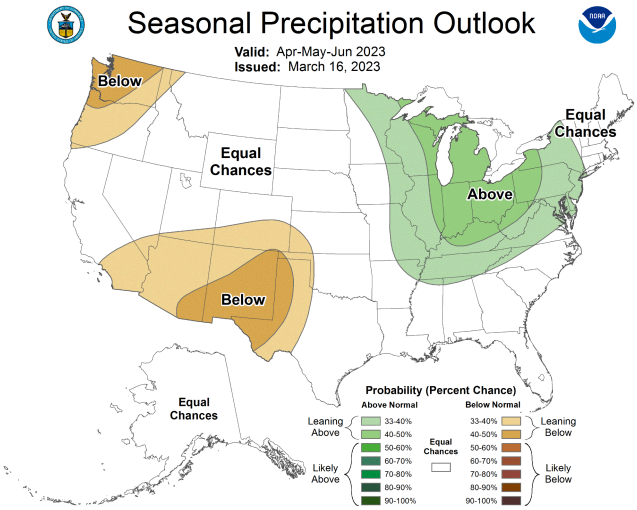
David Simeral
Western Regional Climate Center

droughtmonitor.unl.edu

Seasonal Outlook

The outlook for April through June leans toward below normal temperatures across southern Idaho and equal chances of either below, above, or normal temperatures across northern Idaho. The precipitation outlook calls for equal chances for either below, above, or normal precipitation except for the northern Panhandle where below normal precipitation is slightly favored.





On-line Resource

Water Supply Volume Forecasts...
National Weather Service-Northwest River Forecast Center www.nwrfc.noaa.gov/ws/

National Weather Service-Colorado Basin River Forecast Center
www.cbrfc.noaa.gov/

Snowpack Information...
National Weather Service-Northwest River Forecast Center
www.nwrfc.noaa.gov/snow/

National Weather Service-National Operational Hydrologic Remote Sensing Center
www.nohrsc.noaa.gov/

USDA-Natural Resources Conservation Service
www.nrcs.usda.gov/wps/portal/nrcs/main/id/snow/

Reservoir Storage...
Bureau of Reclamation Reservoir Storage
www.usbr.gov/pn/hydromet/select.html

USDA-Natural Resources Conservation Service
www.nrcs.usda.gov/wps/portal/nrcs/main/id/snow

Drought Information...
U.S. Drought Portal
www.drought.gov

Peak Flow Forecasts...
Northwest River Forecast Center
www.nwrfc.noaa.gov/peak/

Colorado Basin River Forecast Center
www.cbrfc.noaa.gov/rmap/peak/peaklist.php

Temperature and Precipitation Outlook...
Climate Prediction Center
www.cpc.ncep.noaa.gov/